Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A kneadable and moldable bone-replacement material which consists of a mixture of:

A) calcium-containing ceramic particles wherein the ceramic particles comprise a calcium to phosphate ratio having a molar Ca/P relationship between 1.0 and 2.0, wherein the calcium phosphate is selected from the following group: dicalcium phosphate dihydrate ($CaHPO_4 \cdot 2H_2O$); dicalcium-phosphate ($CaHPO_4$); alpha-tricalcium-phosphate (α-$Ca_3(PO_4)_2$); beta-tricalcium-phosphate (β-$Ca_3(PO_4)_2$); calcium-deficient hydro-xylapatite ($Ca_9(PO_4)_5(HPO_4)OH$); hydro-xylapatite ($Ca_{10}(PO_4)_6OH)_2$); carbonated apatite ($Ca_{10}(PO_4)_3(CO_3)_3(OH)_2$); flourapatite ($Ca_{10}(PO_4)_6F_2$); chlorapatite ($Ca_{10}(PO_4)_6Cl_2$); whitlockite; tetracalcium phosphate ($Ca_4(PO_4)_2O$); oxyapatite ($CA_{10}(PO_4)_6O$); beta calcium pyrophosphate (β-$Ca_2(P_2O_7)$; alpha calcium pyrophosphate; gamma calcium pyrophosphate; and octo-calcium-phosphate ($Ca_8H_2(PO_4)_6 \cdot 5H_2O$); wherein a bulk density of the ceramic particles is between 0.6 g/cm^3 and 1.0 g/cm^3; and wherein an average diameter of the ceramic particles is between 100 and ~~250~~ 500 μm; and

B) a hydrogel or a substance that can be swelled into a hydrogel, and wherein:

C) the ceramic particles are of fully synthetic origin;

D) the individual ceramic particles have ~~at least a partially cohesive, porous structure~~ a porosity of 60 percent to 90 percent; and

E) the majority of the ceramic particles have a non-spheric shape.

2. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the ceramic particles have an angular shape.

3. (Previously Presented) The bone-replacement material in accordance with claim 1, the ceramic particles have a sphericity relationship S=Dmax/Dmin between a largest diameter Dmax and a smallest diameter Dmin which is larger than 1.2.

4. (Previously Presented) The bone-replacement material in accordance with claim 3, wherein the sphericity relationship S is larger than 3.

5. – 16. (Canceled)

17. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein a share of ceramic particles of non-spheric shape is at least **60%**.

18. – 20. (Canceled)

21. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein ~~further including~~ the ceramic particles ~~having~~ have an average diameter of 250 micrometers to 500 micrometers ~~and/or ceramic particles having an average diameter of 0.5 to 5.6 mm~~.

22. – 25. (Canceled)

26. (Withdrawn) The bone-replacement material in accordance with claim 1, wherein the ceramic particles consist of a mixture of different calcium-phosphates.

27. – 30. (Canceled)

31. (Previously Presented) The bone-replacement material in accordance with claim 1, further comprising metallic or semi-metallic ion shares as additives.

32. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of fully synthetic substances.

33. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of natural biological substances, preferably of plant origin.

34. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of a biotechnologically generated substance.

35. (Previously Presented) The bone-replacement material in accordance with claim 32, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of a mixture of fully synthetic, natural biological or biotechnologically generated substances.

36. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel contains one of the following components: a) polyamino-acids or their derivatives, preferably polylysin or gelatin; b) polysaccharides and their derivatives; c) polylipides, fatty acids and their derivatives; d) nucleotides and their derivatives; or a combination of the components as listed in a) through d).

37. (Withdrawn) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel contains one of the following components: a) polymethylenoxide or its derivatives; b) polyethylene, polyethylenoxide or their derivatives; c) polypropylene, polypropylenoxide or their derivatives; d) polyacrylate or its derivatives; or a combination of the components as listed in a) through d).

38. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein the hydrogel or the substance which can be swelled into a hydrogel consists of either a glycosaminoglycan or a proteoglycan or a mixture of those two substances.

39. (Previously Presented) The bone-replacement material in accordance with claim 38, wherein the glycosaminoglycan is a hyaluronic acid, chondroitinsulfate, dermatansulfate, heparansulfate, heparin or keratansulfate.

40. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein ~~a concentration of~~ the ~~ready-to-use, hydrated~~ hydrogel or ~~a ready-to-use, hydrated~~ the substance which can be swelled into a hydrogel is present in a concentration from ~~between~~ 0.1% ~~and~~ to 20.0%.

41. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein a molecular weight of the hydrogel or the substance which can be swelled into a hydrogel larger than 300,000 Dalton.

42. (Previously Presented) The bone-replacement material in accordance with claim 41, wherein the molecular weight of the hydrogel or the substance which can be swelled into a hydrogel is larger than 1,000,000 Dalton.

43. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein the hydrogel ~~is~~ comprises a liquid solution of a hyaluronate.

44. (Previously Presented) The bone-replacement material in accordance with claim 43, wherein the liquid solution of the hydrogel contains less than 99% water.

45. (Previously Presented) The bone-replacement material in accordance with claim 43, wherein the liquid solution of the hydrogel contains less than 96.5% water.

46. (Previously Presented) The bone-replacement material in accordance with claim 43, wherein the molecular weight of the hyaluronic acid used is larger than 1.5×10^6 Dalton.

47. (Previously Presented) The bone-replacement material in accordance with claim 43, wherein the molecular weight of the hyaluronic acid used is between 0.5×10^6 and 1.0×10^6 Dalton.

48. (Previously Presented) The bone-replacement material in accordance with claim 43, wherein the molecular weight of the hyaluronic acid used is smaller than 1×10^6.

49. (Currently Amended) The bone-replacement material in accordance with claim 1, wherein a specific gravity of the calcium-containing, porous ceramic particles is between 0.5 and 1.0 ~~g/ccm~~.

50. (Previously Presented) The bone-replacement material in accordance with claim 1, wherein a weight relationship A/B between the hydrated hydrogel and the calcium-containing ceramic particles is larger than 0.2.

51. (Previously Presented) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 0.2 and 0.5.

52. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 0.5 and 0.9.

53. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 0.9 and 1.3.

54. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 1.3 and 2.0.

55. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is between 2 and 5.

56. (Withdrawn) The bone-replacement material in accordance with claim 50, wherein the weight relationship A/B is larger than 5.